IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Goker et al	
Applicant's Ref: 6568/54026US2	Examiner: Sang K. Kim
Serial No.: 09/911,740	Group Art Unit: 3654
Filed: July 25, 2001	Date: September 13, 2007
Title: METHOD AND APPARATUS OF MAINTAINING TENSION IN A TAPE	Confirmation No.: 5600

APPEAL BRIEF

Mail Stop Notice of Appeal - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

In response to the Notifications of Non-Compliant Appeal Brief, dated March 13, 2007 and July 10, 2007, Applicant hereby submits a second corrected Appeal Brief.

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I. REAL PARTY IN INTEREST

The Real Party in Interest is SEAGATE REMOVABLE STORAGE SOLUTIONS, LLC, assignee of the Application. This entity subsequently changed its name to Certance, LLC which has since been acquired by Quantum Corporation as a wholly owned subsidiary.

II. RELATED APPEALS AND INTERFERENCES

The present application (09/911,740) was the subject of Appeal No. 2005-0718 for which a decision was mailed on March 30, 2005. A copy of that decision is included with this Appeal Brief at the RELATED PROCEEDINGS APPENDIX beginning at page 23.

III. STATUS OF CLAIMS

Claims 1-9 and 11-20 are pending in this application, all standing under final rejection. Claim 10 was previously canceled.

IV. STATUS OF AMENDMENTS

No amendment has been submitted subsequent to the mailing of the most recent Office Action dated February 13, 2006.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The present invention addresses and solves problems associated with the unloading of tape from a take-up reel to a single reel tape cartridge in a tape drive mechanism, and more particularly to preventing the detachment of the end of the tape from a hub filler during the unloading operation. (See page 5 of the written description of the Specification, last partial paragraph and first paragraph of page 6). A particular problem addressed includes maintaining of tension in the tape to prevent the detachment of the end of the tape. The unloading operation involves unloading of tape from the take-up reel in the tape drive to the single reel tape cartridge, which can then be removed. In conventional tape drives, during the unloading operation, the motor coupled to the single reel of the tape cartridge and the guide arm motor must act cooperatively in order to maintain adequate tension in the tape that is attached to the hub filler. If the tape is not under adequate tension, there is a risk that the end of the tape will detach from the hub filler prior to the end of the tape being retracted into the cartridge. Over time, there is a possibility that one of the motors will run faster or slower than intended or originally calibrated. When this occurs, the tension in the tape may be decreased and result in the detachment of the end of the tape from the hub filler. If the end of the tape is inadvertently detached in this manner, the tape will become loose and unguided in the tape drive mechanism. One problem with such a detachment is that the tape drive mechanism may be "jammed" by the loose unguided tape. For instance, the loose tape may be "jammed" by the loose unguided tape. For instance, the loose tape may be caught between the hub filler and the guide rail. This may prevent movement of the hub filler, while torque is being applied to the hub filler by the guide arm. Consequently, an undue amount of pressure may be applied to the parts of the tape drive mechanism, permanently damaging the device. (See first full paragraph on page 3, continuing to page 4 of the written description.)

The Appellants address and solve such problems by using the cartridge reel motor 412 coupled to the tape cartridge 400 to retract tape 406 that is attached to a hub filler 402. The retracting tape 406 drags the hub filler 402 and guide arm 416 towards the cartridge 400. The frictional resistance of the hub filler (see page 8, last full paragraph), the frictional resistance of the guide arm (see page 9, first full paragraph), the frictional resistance of the guide arm motor (see page 9, third full paragraph), and magnetic resistance of the guide arm motor (see page 9, second full paragraph) maintain adequate tension in the tape. Additional tension may be

provided by stimulated electrical induction within the guide arm motor (see page 9, last full paragraph). By maintaining the tension, it is ensured that the leader pin will not be inadvertently detached from the hub filler during transport along the guide rail (see page 8, last full paragraph). This tension is maintained by the drag force the hub filler exerts on the tape as the tape retracts into the cartridge. As described at page 10 of the specification, with the present invention, the tape 406 is not transported back to the single reel 417 by the hub filler 402, with the cartridge reel motor 412 operating only to take up slack, as in the prior art. Rather, it is the cartridge reel motor 412 that provides the torque to pull the tape 406 into the single reel 417. Tension in the tape 406 is controlled through the guide arm motor, guide arm and hub filler combination.

Independent claim 1 includes a tape drive mechanism that has a hub filler coupled to a guide rail (refer to Figs. 3-5 – hub filler 402, guide rail 408; page 6, lines 21-22). Also included is means for preventing detachment of an end of tape from the hub filler during a tape unloading operation (refer to Fig. 3 and page 7, lines 6-8 which describes the hub filler402, guide arm 416 and guide arm motor 414 arrangement). Regarding the means, the means has corresponding structure which is described in the specification as a combination of the guide arm 416, which is coupled to the hub filler 402, and the guide arm motor 414, which is also coupled to the guide arm 416.

Independent claim 9 also includes a tape drive mechanism that has a hub filler coupled to a guide rail (refer to Figs. 3-5 – hub filler 402, guide rail 408; page 6, lines 21-22). Claim 9 further discloses a guide arm coupled to the hub filler and a guide arm motor coupled to the guide arm (refer to Figs. 3-5, guide arm 416, guide arm motor 414, page 7, lines 6-8). Additionally, the guide arm and the guide arm motor are arranged to controllably drag on a tape and thereby prevent detachment of an end of the tape from the hub filler during movement of the hub filler along the guide rail during an unload operation (refer to Figs. 4-5; page 6, lines 7-11; page 8, line 14-page 11, line 21).

A method of preventing detachment of an end of tape from a hub filler during movement of the hub filler along a guide rail during an unload operation is disclosed via independent claim 16. The method includes driving an end of tape with a tape cartridge motor in a direction away from a take-up reel (refer to Figs. 3-5; page 7, lines 21-23). The method also includes controllably

applying tension to the end of the tape in a direction toward the take-up reel (refer to Figs. 4-5; page 6, lines 7-11; page 8, line 14-page 11, line 21).

VI. GROUNDS OF REJECTIONS TO BE REVIEWED ON APPEAL

The grounds for rejection to be reviewed on appeal is the rejection of claims 1-9 and 11-20 under 35 U.S.C. § 102(b) as being anticipated by Hamming (U.S. Patent No. 6,034,839).

VII. ARGUMENT

Prosecution History

The tortured prosecution history of this patent application is noteworthy. After two amendments, and then a Final Office Action, a first Appeal Brief was filed. In response to the first Appeal Brief, the Examiner re-opened prosecution with an additional Office Action. Another response was filed, and a Reply Brief. After a decision by the Board in the Appellant's favor, the Examiner re-opened prosecution by again rejecting the claims. Much to the Appellant's surprise, the Examiner dredged up a long-cited reference (the Hamming reference) for the rejections of the claims. Hamming was expressly disclosed by the Appellants in the background section of the present application as disclosing a prior art mechanism that actually presents the problems that the claimed subject matter addresses. Appellants are particularly distressed as the substance of the claims is essentially the same as when this application was filed. Given the already tortured history of the application and attendant costs, Appellants are also surprised that the Examiner, in the latest Office Action, fails to expressly examine the Hamming reference against all the limitations of each of the claims.

Rejections under 35 U.S.C. § 102(b) over Hamming (U.S. Patent No. 6,034,839)

According to the M.P.E.P., a claim is anticipated under 35 U.S.C. § 102(a), (b) and (e) only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. Lack of novelty under 35 U.S.C. § 102 requires the identical disclosure, in a single reference, of each element of a claimed invention such as to establish that the identically claimed invention is in the public domain and that such existence would have been recognized by one having ordinary skill in the art. In re Spada, 911 F.2d 70, 708; 15 USPQ 2d 1655, 1657 (Fed. Cir. 1990).

The Examiner's Position

The Examiner appears to premise the rejection of all pending claims on Hamming's disclosure of the electro-mechanical calibration of the load arm motor 70 and motor driving reel 12, in connection with some alleged "inherent" friction associated with various tape drive loading

and unloading elements. See February 13, 2006 Office Action at 3. The present invention and the Hamming reference both utilize, or can be used in conjunction with, a hub filler, guide rail, hub filler, guide arm, guide arm motor, single reel and cartridge reel motor. However, the similarities between Hamming and the claimed subject matter end there. The Examiner has mistakenly come to the conclusion that the mechanism in Hamming satisfies the limitations of the rejected claims and more particularly has come to the mistaken notion that Hamming also discloses the claimed functionalities. As discussed in more detail below, the Examiner's "inherent friction" theory is ill-considered and baseless.

Claims 1-2

Regarding claim 1, a claim that is cast in means-plus-function format must be interpreted within the guidelines of 35 U.S.C. § 112, 6th paragraph. As stated in M.P.E.P. section 2182, the application of a prior art reference to a means plus function limitation requires that the prior art element perform the identical function specified in the claim. If a prior art reference teaches identity of function to that specified in the claim, then the Examiner carries the initial burden of proof to show that the prior art structure is the same as or equivalent to the structure, material or acts described in the specification that should have been identified as corresponding to the claimed means plus function element.

The Examiner's showing fails to satisfy either prong of the two-part test required by 35 U.S.C. § 112, 6th paragraph. In the present application, Hamming does not even reach the first prong of the test in identifying the function specified in claim 1. Claim 1 includes, among other things, "means for preventing detachment of an end of tape from the hub filler during a tape unloading operation." Hamming does not disclose a means for preventing detachment of an end of tape of the hub filler during a tape unloading operation. Instead, Hamming discloses that during the unloading operation, the motor 70 operates to actively drive the hub filler 100 toward the reel 12 as discussed in the following entry from Hamming:

> Once the take-up reel **42** reaches the position depicted in FIG. **12**, the rotation of reel **12** is temporarily slowed or stopped and the motor **70** is activated. The return trip of the hub filler **100** is caused by a reversal of the direction of rotation of the motor **70** as compared to the direction of rotation of the motor **70** during loading of the hub filler **100**. The motor that drives reel **12** prevents slack from forming during the return trip of the hub filler **100** and the leader pin **14** from the take-up reel **42** to the tape cartridge **10**. A conventional electronic or mechanical method is used to prevent the motor driving reel **12** from rotating at a speed or with a torque that will cause the leader pin **14** to pull hard against the loading mechanism.

-Hamming, column 9, lines 55-67

In addition, all that Hamming discloses is that a motor drives the reel 12 to prevent slack from forming when the hub filler 100 moves back to its return position. Preventing slack and preventing detachment are not identical functions and one skilled in the art would not gain knowledge that the Hamming device prevents detachment of the end of the tape from the description in Hamming. For at least these reasons, the device in Hamming does not perform the identical function claimed in claim 1.

Still further, even assuming that Hamming discloses an identical function, the structure in Hamming for "preventing detachment of an end of tape from the hub filler during a tape unloading operation" is not the same as or equivalent to the structure disclosed in the instant application. As discussed above, the present invention utilizes the cartridge reel motor to retract the tape during the unload operation and drag the tape loading components (e.g., the hub filler, load arm and load arm motor), relying on the frictional resistance of the loading components to maintain adequate tension on the tape to prevent detachment of the tape end from the hub filler. On the other hand, Hamming discloses a mechanism where the hub filler 100 and load arm 50 are actively driven by a motor toward the tape cartridge 10 during the unload operation. As Hamming discloses, this requires the motor driving reel 12 to be calibrated to rotate at a sufficient speed to take up any resulting slack. In addition, since the hub filler and load arm 50 are actively driven during the unload operation, there is essentially no "inherent" friction (upon which the Examiner erroneously relies) associated with the tape loading components of Hamming that perform the recited function. In other words, since the motor 70 actively drives the hub filler and load arm, there is no 'inherent friction' that causes adequate tension in the tape. Rather, any 'inherent friction' between or among the components described by the Examiner is overcome by the motor 70. Indeed, this is why, in Hamming, calibration of

the motor driving reel 12 and the load arm motor 70 is required. Accordingly, claims 1 and 2 are allowable over Hamming. Still further, claims 3 to 8 are also allowable as depending from an allowable independent claim, in addition to the reasoning that follows.

Claims 3 and 9

Claim 3 discloses for the guide arm and the guide arm motor are arranged to provide drag on a tape during an unload operation. Claim 9 similarly provides that the "guide arm and guide arm motor are arranged to controllably drag on a tape." As discussed above, this aspect of the claimed embodiments is simply not disclosed by Hamming as the guide arm motor and guide arm are actively driven during a loading operation. As stated above, Hamming discloses that the motor 70 actively drives the hub filler 100 back toward the reel 12 during the unloading operation (Hamming, column 9, lines 55-67). Hamming expressly states that during the unloading operation, the reel 12 is operated to prevent slack from forming in the tape while the hub filler 100 is driven by motor 70. In other words, slack would be formed in the tape in the Hamming device if the reel 12 were not to rotate during the unloading operation. Considering this, it cannot be said the motor 70 and the hub filler 100 in Hamming are arranged to controllably drag on the tape. Furthermore, it has not been established in the February 13, 2006 Office Action where it is disclosed in Hamming that the motor 70 and the hub filler 100 controllably drag on the tape. Therefore, claims 3 and 9 are allowable. Claims 4-8 are also allowable as depending from claim 3. In addition, claims 11-15 are allowable as being dependent from allowable claim 9 in addition to any separately argued reasoning set forth herein.

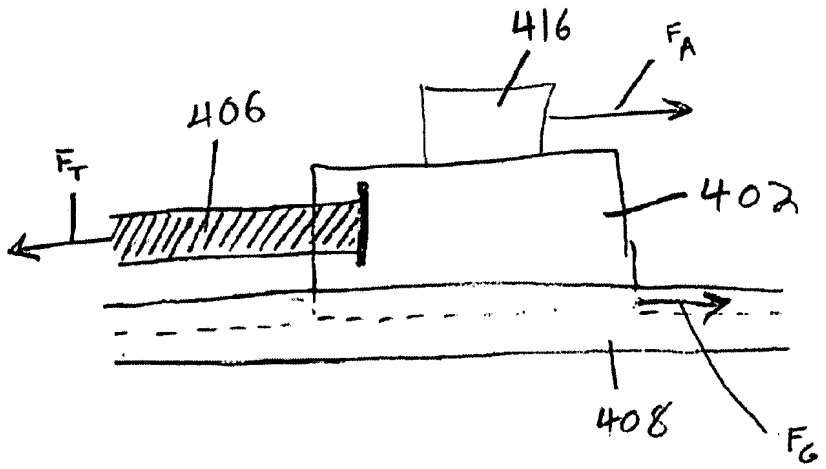
Claims 4, 7, 11, and 14

Claim 4 specifies that the guide arm and the guide arm motor are arranged to be dragged by the tape being unloaded from the tape drive mechanism. Claim 7 states that the guide arm motor is arranged to provide tension by magnetic resistance within the guide arm motor. Claim 11 provides for similar limitations. Claim 14 depends from claim 11. These limitations are explained by the following entry from Appellant's specification:

> **The present invention provides an improved method and apparatus of preventing the detachment of an end of tape from hub filler during**

movement of the hub filler along a guide rail during an unload operation of a tape drive mechanism. Detachment is prevented by a retracting tape dragging the hub filler along the guide rail, so as to maintain adequate tension that prevents detachment of the tape from the hub filler. The hub filler, which is coupled to the tape, guide arm, and guide rail, is arranged to have adequate drag force to maintain tension in the tape and prevent damage to the tape. The drag force is at least partially attributed to the frictional forces of the hub filler, guide rail, guide arm, and the guide arm motor. Further, the drag force may be at least partially attributed to and controlled by the magnetic resistance of the guide arm motor and/or the electrical induction of the guide arm motor. – Appellant's specification, page 11, second full paragraph

Some of the forces that partly make up the drag force are indicated by Appellant's Fig. 5:



-Appellant's Figure 5

F_T is the force being applied to the hub filler 402 by the tape 406, F_A is the force being applied to the hub filler 402 by the guide arm 416 and F_G is the frictional force being applied to the hub filler 402 by the guide rail 408. As can be seen, F_A and F_G are providing a drag in a direction opposite to that of F_T. In marked contrast, Hamming teaches a mechanism where the hub filler is actively driven back toward the cartridge during an unload operation, while the cartridge reel merely takes up resulting slack in the tape. Accordingly, in Hamming, the force, F_A, associated with the hub filler and guide arm are applied in the same direction as F_T. Furthermore, the resulting force negates any "inherent" frictional force between the hub filler and the guide rail as a means of tensioning the tape. In view of the foregoing, claims 4 and 7 are allowable.

Claims 6, 8, 13, 15, and 16

Claim 6 provides for a force to be applied to the hub filler in an opposite direction that the hub filler is traveling in the unloading operation. The force results from the electrical induction, frictional resistance of the hub filler and frictional resistance of the guide arm. Similar to claim 6, claim 8 also provides for a force to be applied to the hub filler in an opposite direction that the hub filler is traveling in the unloading operation. The force of claim 8 is created by the magnetic resistance of the guide arm motor, frictional resistance of the guide arm motor, frictional resistance of the hub filler, and frictional resistance of the guide arm. Claim 15 includes similar limitations to the foregoing claims 6 and 8. In addition, independent claim 16 includes "driving an end of tape with a tape cartridge motor in a direction away from a take-up reel; and controllably applying tension to the end of the tape in a direction toward the take-up reel."

Hamming fails to disclose or fairly suggest any of these limitations. Rather, as discussed in the preceding section, Hamming teaches that a guide arm motor simply drives the hub filler away from the take-up reel, while a cartridge reel takes up slack in the tape. Hamming fails to disclose the application or use of any force in direction opposite to that of which the hub filler is traveling during an unloading operation. Accordingly, claims 6, 8, 13, 15 and 16 are therefore allowable. Claims 17-20 are allowable as being dependent from allowable claim 16 in addition to any separately argued reasoning stated herein.

Claims 5, 12, and 18

Claim 5 provides that "the guide arm motor under control of a controller is arranged to provide tension on the tape by electrical induction within the guide arm motor." Claim 12 states that the "guide arm motor under control of a controller is arranged to provide tension by stimulated electrical induction within the guide arm motor." Claim 18 includes similar limitations.

Hamming fails to anticipate claims 5, 12 and 18. For example, Hamming fails to disclose or fairly suggest a guide arm motor that maintains tension by electrical induction under control

of a controller. Rather, as discussed above, Hamming teaches that a guide arm motor simply drives the hub filler back, while a cartridge reel takes up slack in the tape.

VIII. CONCLUSION

Appellants respectfully submit that the final rejections of the claims are not legally or factually viable and that a prima facie case under 35 U.S.C. § 102 has not been properly established. Appellants therefore respectfully solicit the Honorable Board to reverse each of the Examiner's rejections.

Respectfully submitted,
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IX. CLAIMS APPENDIX

1. A tape drive mechanism comprising:

a hub filler coupled to a guide rail;

means for preventing detachment of an end of tape from the hub filler during a tape unloading operation.

2. The tape drive mechanism of claim 1, wherein the means for preventing detachment comprises:

a guide arm coupled to the hub filler; and

a guide arm motor coupled to the guide arm.

3. The tape drive mechanism of claim 2, wherein:

the guide arm and guide arm motor are arranged to be dragged by the tape being unloaded from the tape drive mechanism.

4. The tape drive mechanism of the claim 3, wherein:

the guide arm and the guide arm motor are arranged to provide drag on a tape being unloaded from the tape drive mechanism.

5. The tape drive mechanism of claim 4, wherein:

the guide arm motor under control of a controller is arranged to provide tension on the tape by electrical induction within the guide arm motor.

6. The tape drive mechanism of claim 5, wherein the electrical induction, frictional resistance of the hub filler, and frictional resistance of the guide arm applies force to the hub filler in an opposite direction to a direction that the hub filler is traveling in the unloading operation.

7. The tape drive mechanism of claim 4, wherein the guide alui motor is arranged to provide tension by magnetic resistance within the guide arm motor.

8. The tape drive mechanism of claim 7, wherein the magnetic resistance of the guide arm motor, frictional resistance of the guide arm motor, frictional resistance of the hub filler, and frictional resistance of the guide arm apply force to the hub filler in an opposite direction to a direction that the hub filler is traveling in the unloading operation.

9. A tape drive mechanism comprising:

a hub filler coupled to a guide rail;

a guide arm coupled to the hub filler; and

a guide arm motor coupled to the guide arm, wherein the guide arm and the guide arm motor are arranged to controllably drag on a tape and thereby prevent detachment of an end of the tape from the hub filler during movement of the hub filler along the guide rail during an unload operation.

10. (Canceled)

11. The tape drive mechanism of claim 9 wherein the guide arm and the guide arm motor are arranged to be dragged by the tape being unloaded from the tape drive mechanism.

12. The tap drive mechanism of claim 9 wherein the guide aiiii motor under control of a controller is arranged to provide tension by stimulated electrical induction within the guide arm motor.

13. The tape drive mechanism of claim 12, wherein the electrical induction, frictional resistance of the hub filler, and frictional resistance of the guide arm applies torque to the hub filler in the opposite direction to a direction that the hub filler is traveling in the unloading operation.

14. The tape drive mechanism of claim 11, wherein the guide arm motor is arranged to provide tension by magnetic resistance within the guide arm motor.

15. The tape drive mechanism of claim 14, wherein the magnetic resistance of the guide arm motor, frictional resistance of the guide arm motor, frictional resistance of the hub filler, and frictional resistance of the guide arm apply force to the hub filler in an opposite direction that the hub filler is traveling in the unloading direction.

16. A method of preventing detachment of an end of tape from a hub filler during movement of the hub filler along a guide rail during an unload operation, comprising the steps of:

driving an end of tape with a tape cartridge motor in a direction away from a take-up reel; and

controllably applying tension to the end of the tape in a direction toward the take-up reel.

17. The method of claim 16, wherein:

the step of applying tension comprises the further steps of:

providing tension through a guide arm coupled to the hub filler; and

providing tension through a guide arm motor coupled to the guide arm.

18. The method of claim 17, wherein the step of providing tension through a guide arm motor comprises the further step of providing tension in the guide arm motor through electrical induction within the guide arm motor.

19. The method of claim 17, wherein the step of providing tension through a guide aiiu motor comprises the further step of providing tension in the guide arm motor through magnetic resistance within the guide arm motor.

20. The method of claim 17, wherein the step of providing tension through a guide arm comprises the further step of providing tension in the guide arm through frictional resistance of the guide arm.

X. EVIDENCE APPENDIX

No evidence under § 1.130, 1.131 or 1.132 has been submitted.

XI. RELATED PROCEEDINGS APPENDIX

Starting on the next page is a copy of the decision rendered for Appeal No. 2005-0718.

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCE

Ex parte TURGUY GOKER, JOHN A. HAMMING, RUSSELL A. BAUER and KEMPTON W. REDHEAD

Appeal No. 2005-0718
Application 09/911,740

ON BRIEF

Before FRANKFORT, McQUADE, and NASE, Administrative Patent Judges.

FRANKFORT, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's non-final rejection, in the Office action mailed February 10, 2004, of claims 1 through 9 and 11 through 20, all of the claims remaining in the application. Claim 10 has been canceled.

As noted on page 1 of the specification, appellants' invention relates to a method and apparatus to maintain tension in a tape being unloaded from a tape drive mechanism. More specifically, it is indicated in the paragraph bridging pages 4 and 5 of the specification that

> [t]he tape loading mechanism of the present invention, during an unloading operation, uses a motor coupled to a tape cartridge to retract tape that is attached to a hub filler. The retracting tape drags the hub filler and guide arm towards the cartridge. In embodiments of the present invention, the frictional resistance of the hub filler, frictional resistance of the guide arm, the frictional resistance of the guide arm motor, and the magnetic resistance of the guide arm motor maintain adequate tension in the tape. In embodiments of the present invention, additional tension is provided by stimulated electrical induction within the guide arm motor.

The above-noted tension maintained on the tape during an unloading operation is specifically provided so as to prevent the detachment of the end of the tape (at 404) from the hub filler (402) during a tape unloading operation.

Independent claims 1, 9 and 16 are representative of the subject matter on appeal and a copy of those claims may be found in the Appendix to appellants' brief.

The prior art references relied upon by the examiner in rejecting the appealed claims are:

Rueger	4,399,936	Aug. 23, 1983
Ohshita	0 467 143 A2	Jan. 22, 1992
(European Patent Application)		

Claims 1 and 2 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Ohshita.

Claims 3 through 9 and 11 through 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ohshita in view of Rueger.

Rather than attempt to reiterate the examiner's full commentary with regard to the above-noted rejections and the conflicting viewpoints advanced by the examiner and appellants regarding those rejections, we make reference to the examiner's answer (mailed September 9, 2004) for the reasoning in support of the rejections, and to appellants' brief (filed May 6, 2004) and reply brief (filed November 9, 2004) for the arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to appellants' specification and claims, to the applied prior art references, and to the respective positions articulated by appellants and the examiner. As a consequence of our review, we have made the determinations which follow.

With regard to the rejection of claims 1 and 2 under 35 U.S.C. § 102(b), the examiner has pointed us to Figure 3 of Ohshita and urged that the tape threading mechanism seen therein comprises a hub filler (leader block 3) coupled to a guide rail (5b) and means (including a guide arm (17, 18) coupled to hub filler (3) and a guide arm motor (21) coupled to the guide arm) for preventing detachment of an end of the tape (2) from the hub filler (3) during a tape unloading operation. More particularly, it is the examiner's view (answer, page 6) that Ohshita shows the guide arm (17, 18) and motor (21) being dragged, since the tape cartridge (1) winds the tape (2) which is attached to the hub filler (3), and the hub filler is coupled to the guide arm (17, 18). According to the examiner, even if the guide arm motor (21)

rotates in the same direction with the cartridge motor, in order to wind, the cartridge motor must necessarily subject the tape to tension and thereby drag the tape, hub filler, guide arm and motor.

After having carefully reviewed the Ohshita reference, we find no teaching or disclosure therein adequate to support the examiner's determination that during an unthreading/rewinding operation, wherein the leader block (3) is moved from the machine take-up reel (4) back into the cartridge (1), the tape (2) must of necessity be under tension and thereby drag the hub filler/leader block (3), guide arm (17, 18) and guide arm motor (21) so as to inherently produce a force for preventing detachment of the end of the tape from the hub filler/leader block (3) during a tape unloading operation.

In the first place, we note that it is clear from the disclosure of Ohshita that the end of tape (2) is secured to the leader block (3) in an essentially permanent manner so that the leader block is carried by and remains part of the tape and cartridge (1). Note particularly Figures 1(a) through 1(c) of

Ohshita. By contrast, in the application before us on appeal, the hub filler (402) is part of the tape machine itself and the end of the tape (406) is connected to the hub filler by removable engagement of a leader pin (404) in a slot in the hub filler. Note Figures 1-3 of the present application and the disclosure therein on pages 1-4. Thus, the arrangement in Ohshita wherein the tape (2) is secured to the leader block/hub filler (3) would apparently not be subject to the problem addressed by appellants, since it appears that the end of tape (2) will not become disengaged from the leader block/hub filler (3) during an unloading/rewinding operation.

Moreover, while we would agree with the examiner that the tape (2) of Ohshita is apparently under tension during the initial rewinding of the tape from the machine take-up reel (4) back into the cartridge (1), it appears that when the guide arm motor (21) is energized during the last stage of the unwinding operation so as to drive arms (17, 18) to pull the leader block/hub filler (3) out of the groove (4a) in the take-up reel and move the leader block back to a position for insertion into

the cartridge (Ohshita, col. 4, lines 32-40), the last segment of tape (2) will merely translate as the arm (17, 18) and motor (21) move the leader block (3) in the same direction as the travel direction of the tape and the motor (unshown) driving the tape reel of the cartridge (1) operates to take-up slack in the tape. As a result, it is pure speculation and conjecture on the examiner's part to assert that the tape (2) must of necessity be under tension and thereby drag the hub filler/leader block (3), guide arm (17, 18) and guide arm motor (21) so as to inherently produce a force for preventing detachment of the end of the tape from the hub filler/leader block (3) during a tape unloading operation.

We also agree with appellants' discussion in the brief (pages 5-9) of the requirement in any evaluation of a "means-plus-function" clause under 35 U.S.C. § 112, sixth paragraph, for such clause to be construed "to cover the corresponding structure, material, or acts described in the specification and any equivalents thereof." In the present case, the examiner clearly has not established that the structure of Ohshita is the same as that described in appellants' application or an equivalent thereof.

Thus, for the above reasons, we will not sustain the examiner's rejection of independent claim 1, or claim 2 which depends therefrom, under 35 U.S.C. § 102(b) as being anticipated by Ohshita.

Concerning the examiner's rejection of claims 3 through 9 and 11 through 20 under 35 U.S.C. § 103(a) based on the combined teachings of Ohshita and Rueger, we find no suggestion or motivation in the applied references which would have led one of ordinary skill in the art at the time of appellants' invention to combine Ohshita and Rueger in the particular manner urged by the examiner. In light of the express disclosure in Ohshita (col. 4, lines 32-40) that the arm (17, 18) and motor (21) are operated to pull the leader block (3) towards a position to be inserted into the cartridge (1) and that during insertion the arm (17, 18) operates to push the leader block against the opposing force of the tongue (1a) provided on cartridge (1), we find no reason that an artisan would attempt to modify the tape feeding mechanism of Ohshita so that the guide arm (17, 18) and motor (21) therein

would be "dragged by the tape" as is urged by the examiner, even though this is described as one possibility in Rueger's tape threading apparatus (col. 7, lines 12-22).

Moreover, we observe that the mere fact that the prior art could be modified in the manner urged by the examiner would not have made such modification obvious unless the prior art suggested the desirability of the modification. See In re Gordon, 773 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984) and In re Fritch, 972 F.2d 1260, 1266 n.14, 23 USPQ2d 1780, 1783-84 n.14 (Fed. Cir. 1992). As we noted above, in this case, the applied references to Ohshita and Rueger provide no such teaching or suggestion regarding the desirability of such a modification.

From our perspective, the examiner has relied upon impermissible hindsight and used appellants' claimed invention as an instruction manual or "template" in an attempt to piece together disparate teachings of the prior art so that the claimed invention is rendered obvious. This approach to a determination of obviousness is improper and cannot be sanctioned by this

Board. See In re Gorman, 933 F.2d 982, 987, 18 USPQ2d 1885, 1888 (Fed Cir. 1991) and Interconnect Planning Corp. v. Feil, 774 F.2d 1132, 1138, 227 USPQ 543, 547 (Fed. Cir. 1985).

Since the teachings and suggestions found in Ohshita and Rueger would not have made the subject matter as a whole of dependent claims 3 through 8 or independent claims 9 and 16 on appeal obvious to one of ordinary skill in the art at the time of appellants' invention, we must refuse to sustain the examiner's rejection of those claims, and of dependent claims 11 through 15 and 17 through 20 under 35 U.S.C. § 103(a).

In summary, we have refused to sustain the examiner's rejection of claims 1 and 2 under 35 U.S.C. § 102(b) based on Ohshita and the rejection of claims 3 through 9 and 11 through 20 under 35 U.S.C. § 103(a) based on Ohshita in view of Rueger. Thus, the decision of the examiner to reject the claims of the present application is reversed.

REVERSED

CHARLES E. FRANKFORT
Administrative Patent Judge

JOHN P. McQUADE
Administrative Patent Judge

JEFFREY V. NASE
Administrative Patent Judge

CEF:pgc

Appeal No. 2005-0718
Application 09/911,740

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